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Experiment: 2. Elimination of single line and multiple line comments for file
Class: TY CSE A, 31

Code:
```cpp
#include <iostream>
#include <fstream>
#include <string>
using namespace std;

void removeComments(ifstream& inputFile, ofstream& outputFile) {
    char line[1000];
    bool insideBlockComment = false;
    int i;
    while (inputFile.getline(line, sizeof(line))) {
        i = 0;
        while (line[i] != '\0') {
            if (!insideBlockComment && line[i] == '/' && line[i + 1] == '*') {
                insideBlockComment = true;
                i += 2;
            }
            else if (insideBlockComment && line[i] == '*' && line[i + 1] == '/') {
                insideBlockComment = false;
                i += 2;
            }
            else if (!insideBlockComment && line[i] == '/' && line[i + 1] == '/') {
                break;  // Skip the rest of the line (single-line comment)
            }
            else {
                outputFile.put(line[i]);  // Write the non-comment character
                i++;
            }
        }
        outputFile.put('\n');  // Write a newline at the end of the processed line
    }
}

int main() {
    string inputFileName, outputFileName;

    // Get the input and output file names from the user
    cout << "Enter the input file name: ";
    cin >> inputFileName;
    cout << "Enter the output file name: ";
    cin >> outputFileName;
    ifstream inputFile(inputFileName);
    if (!inputFile) {
        cout << "Error opening input file!" << endl;
```

```cpp
        return 1;
    }

    ofstream outputFile(outputFileName);
    if (!outputFile) {
        cout << "Error opening output file!" << endl;
        inputFile.close();
        return 1;
    }

    // Remove comments from the input file and write the cleaned code to the output file
    removeComments(inputFile, outputFile);

    // Close the files after processing
    inputFile.close();
    outputFile.close();

    cout << "Comments removed and output written to " << outputFileName << endl;
    return 0;
}
```
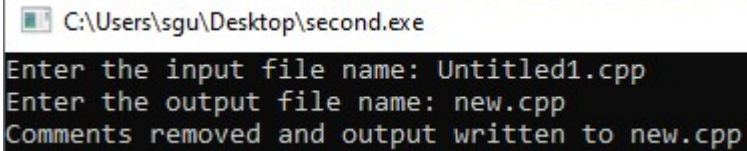
C:\Users\sgu\Desktop\second.exe

```
Enter the input file name: Untitled1.cpp
Enter the output file name: new.cpp
Comments removed and output written to new.cpp
```

[*] Untitled1.cpp   second.cpp   [*] new.cpp

```cpp
1    #include <iostream>
2    using namespace std;
3    int main() {
4        // This is a single-line comment
5        cout << "Hello, World!" << endl;  // Print greeting
6        cout << "This is a C++ program!" << endl;
7        // End of the program
8        return 0;
9    }
10
```

Untitled1.cpp   second.cpp   [*] new.cpp

```cpp
1    #include <iostream>
2    using namespace std;
3    int main() {
4        cout << "Hello, World!" << endl;
5        cout << "This is a C++ program!" << endl;
6        return 0;
7    }
8
```